the five year build-out period of the market into which the SAB extends.

(d) *Unserved area systems.* Phase I initial cellular applications must not propose SAB extensions. Phase I sole major modification applications and Phase II applications may propose SAB extensions, subject to the conditions in this section.

§ 22.913 Effective radiated power limits.

The effective radiated power (ERP) of transmitters in the Cellular Radiotelephone Service must not exceed the limits in this section.

(a) *Maximum ERP.* The effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts. The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

(b) *Height-power limit.* The ERP of base transmitters must not exceed the amount that would result in an average distance to the service area boundary of 79.1 kilometers (49 miles) for cellular systems authorized to serve the Gulf of Mexico MSA and 40.2 kilometers (25 miles) for all other cellular systems. The average distance to the service area boundary is calculated by taking the arithmetic mean of the distances determined using the procedures specified in §22.911 for the eight cardinal radial directions.

(c) *Coordination exemption.* Licensees need not comply with the height-power limit in paragraph (b) of this section if the proposed operation is coordinated with the licensees of all affected cellular systems on the same channel block within 121 kilometers (75 miles) and concurrence is obtained.

§ 22.915 Modulation requirements.

Cellular systems must be capable of providing service using the types of modulation described in the cellular system compatibility specification.

(a) *Non-voice modulating signals.* Modulating signals other than voice signals, such as data signals, may be transmitted, provided the resulting modulated emission exhibits spectral characteristics not exceeding those resulting from voice modulation.

(b) *Modulation levels.* The levels of the modulating signals must be set to the values specified in this paragraph, and must be maintained within ±10% of those values.

(1) The instantaneous frequency deviation resulting from the main modulating signal must be ±12 kHz.

(2) The instantaneous frequency deviation resulting from the supervisory audio tones must be ±2 kHz.

(3) The instantaneous frequency deviation resulting from the signaling tone must be ±8 kHz.

(4) The instantaneous frequency deviation resulting from wideband data signals must be ±8 kHz.

(c) *Deviation limitation circuitry.* Cellular transmitters must be equipped with circuitry that automatically prevents modulation levels for voice transmissions from exceeding the limits specified in this section.

(d) *Audio filter characteristics.* Except as provided in §22.917, radiotelephony signals applied to the modulator from the modulation limiter must be attenuated as a function of frequency as specified in this paragraph.

(1) For mobile stations, these signals must be attenuated, relative to the level at 1 kHz, as follows:

(i) In the frequency ranges of 3.0 to 5.9 kHz and 6.1 to 15.0 kHz, signals must be attenuated by at least 40 log (f÷3) dB, where f is the frequency of the signal in kHz.

(ii) In the frequency range of 5.9 to 6.1 kHz, signals must be attenuated at least 35 dB.

(iii) In the frequency range above 15 kHz, signals must be attenuated at least 28 dB.

(2) For base stations, these signals shall be attenuated, relative to the level at 1 kHz, as follows:

(i) In the frequency range of 3 to 15 kHz, signals must be attenuated by at least 40 log (f÷3) dB, where f is the frequency of the signal in kHz.

(ii) In the frequency range above 15 kHz, signals must be attenuated by at least 28 dB.

(3) Filtering is not required for the supervisory audio tones, signaling tones or wideband data signals.